IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Theodore F. Emerson et al.	§	Confirmation No.:	6279
	§	Group Art Unit:	2151
Serial No.: 10/037,501	§		
	§		
Filed: January 4, 2003	§	Examiner:	Patel, Dhairya A.
	§		
For: Method and Apparatus for Emulating An OS-Supported Communication Device to Enable Remote Debugging	§	Atty Docket:	200302044-1/FLE/BLT/GIL COMP:0221
	§		

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October 3, 2007 — Date

Helen Tinsley

APPEAL BRIEF PURSUANT TO 37 C.F.R. §§41.31 AND 41.37

This Appeal Brief is being filed in furtherance to the Notice of Appeal mailed on August 1, 2007, and received by the Patent Office on August 6, 2007.

1. REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, which is the Assignee of the above-referenced application by virtue of an Assignment recorded in the United States Patent and Trademark Office at reel 014628, frame 0103. The date of the Assignment is May 12, 2004. As the real party in interest, Hewlett-Packard Development Company will be directly affected by the Board's decision in the pending appeal.

2. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any other appeals or interferences related to this Appeal. The undersigned is Appellants' legal representative in this Appeal.

3. STATUS OF CLAIMS

Claims 1-9 and 11-23 are currently pending, are currently under final rejection. Thus, claims 1-9 and 11-23 are the subject of this Appeal.

4. STATUS OF AMENDMENTS

There are no outstanding amendments to be considered by the Board.

5. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates generally "to the field of monitoring and correcting failure conditions in networked computer systems and, more particularly, to remote server management." Specification, page 1, lines 8, 9. The Application contains three independent claims, namely, claims 1, 9 and 13, all of which are the subject of this Appeal. The subject matter of these claims is summarized below.

With regard to the aspect of the invention set forth in independent claim 1, discussions of the recited features of claim 1 can be found at least in the passages referenced below. By way of example, an embodiment in accordance with claim 1 provides a remote server management controller 200 (FIG. 2), comprising an external communication interface such as a PCI bus 314. According to the specification, "[p]referably, the PCI bus 314, which serves as the main communication interface between the managed server 20 (FIG. 1) and the remote server management controller 200, may be configured as a 32-bit, 33 MHz PCI master/slave interface." Specification, page 16, lines 18-20. The remote server management controller further comprises an input/output processor (IOP) 302 adapted to receive data from the external communication interface, and transmit data corresponding to the data received from the external communication interface to an operating system (OS) of a managed server. The operation of the IOP is explained in the specification in part, as follows:

> Under control of the IOP 302, some of the IRC registers 504 may function as a virtual communication device ("VCD") that may be used to intercept UART communications or communications from other sources. Data intercepted through the VCD may be altered by the IOP and/or redirected to other outputs of the remote server management controller 200. For example, data intercepted by the VCD may be redirected to a remote user via the Ethernet interface 322.
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> Specification, page 21, lines 17-22.

Further, the remote server management controller comprises a virtual communication device (VCD) interface (e.g., 504, 600) adapted to intercept data received from the OS, the VCD interface comprises a pre-defined standard communication interface. As set forth in the specification:

> The VCD logic enables the remote server management controller 200 to communicate with specific OS features, such as the Emergency Management Services ("EMS") facility that is implemented in Windows XP. These OS specific features are designed to communicate with a physical UART or USB device. The remote management controller 200 emulates these physical devices so that the OS features can be seamlessly extended to remote users.
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> Specification, page 22, lines 1-8.

Thus, the data received from the OS is seamlessly redirected from an intended communication interface without arbitration to the remote user via the external communication interface.

With regard to the aspect of the invention set forth in independent claim 9, discussions of the recited features of claim 9 can be found at least in the passages referenced below. By way of example, an embodiment in accordance with claim 9 provides a remote server management controller 200 comprising an input/output processor (IOP) 302 adapted to monitor interrupt data transmitted from a super I/O (SIO) 900 to a southbridge, to alter the interrupt data transmitted from the SIO based on input received from an external user via an external communication interface and to transmit the altered interrupt data to a managed server. This process is described in the specification, as follows:

> When connected in this manner, the IOP 302 may monitor the serial interrupt data stream that is passed from the SIO 902 to the southbridge 900. As long as the IOP does not assert its SIRQEN# control signal, the serial interrupt data continues to flow from the SIO 902 through the quickswitch 904 to the southbridge 900. If the IOP, asserts the SIRQEN# control signal, the output of the quickswitch 904 is placed into a high impedence state ("tristated"). This allows the IOP 302 to transmit its own serial interrupt data from its SIRQOUT pin to the southbridge 900.

This technique allows the remote server management controller 200 (FIG. 2) to monitor and/or redirect interrupts such as IRQ3, IRQ4, and/or IRQ5 from the SIO 904 to the IOP 302 (FIG. 2). The IOP 302 may use this capability of the remote server management controller 200 to interrupt the managed server 20 by inserting its own internally generated interrupt into the serial interrupt data transmitted from the SIO 902 to the southbridge 900.

Specification, page 33, lines 3-14.

The remote server management controller further comprises a virtual communication device (VCD) 504, 600 that comprises a predefined standard communication interface, the VCD being adapted to intercept responsive data intended to be transmitted to the SIO in response to the altered interrupt data, the responsive data being in a format that is not compatible with the first communication protocol. As set forth in the specification:

> Those of ordinary skill in the field will appreciate that functionality described with respect to the USB interface 326 in FIG. 4 may be obtained with other communications interfaces as well. For example, the remote server management controller 200 may incorporate an interface that is compatible with the IEEE 1394 or IEEE 1394b standards in addition to or instead of a USB interface. If an interface for either IEEE 1394 or IEEE 1394b is incorporated into the remote server management controller 200, that interface may be adapted to redirect communications and emulate devices compatible with that interface.
>
> Specification, page 28, line 17 – page 29, line 1.

The VCD 504, 600 is further adapted to prevent the responsive data from reaching the SIO, format the responsive data for transmission, and redirect without arbitration the formatted data to the external communication interface. As set forth in the specification:

> In many newly developed servers, legacy ISA interrupts are no longer supported. Instead, interrupts are transmitted serially to the southbridge of the server using one signal with a defined protocol. Usually an SIO is the source of these interrupts, but other devices can generate interrupts as well. In order for a keyboard, mouse, or serial port to be emulated or shared between the remote server management controller 200 and the managed server 20, the respective interrupts from those devices may be intercepted by the remote server management controller 200. In order to mask or generate a device interrupt without interference from the respective device or the device driver, the present embodiment provides logic to allow any interrupt in the serial stream to be blocked or artificially generated by another device such as the VCD 600 under control of the IOP 302.
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> Specification, page 31, lines 8-15.

No arbitration scheme is discussed with respect to the redirection of data in accordance with an exemplary embodiment of the invention as set forth in claim 13.

With regard to the aspect of the invention set forth in independent claim 13, discussions of the recited features of claim 13 can be found at least in the passages referenced below. By way of example, an embodiment in accordance with claim 13 provides a method of remotely retrieving data from an operating system (OS). The method comprises receiving a request for OS information from a remote user. As set forth in the specification:

> At 802, a remote user initiates an out-of-band communication with the remote server management controller 200 (FIG. 2) via the Ethernet interface 322 (FIG. 2). As part of this session, the user desires to obtain information about the status of the OS of the managed server 20 (FIG. 1). The user may issue a query to be passed on to the OS through a management facility that is supported by the OS.
>
> Specification, page 29, lines 14-18. See also FIG. 5.

The request is then transmitted to the OS via a virtual communication device (VCD) 504, 600 interface comprising a pre-defined standard communication interface. The specification states that "[t]he user's query is received by the IOP 302 at 804 and directed to the VCD or USB interface 326 at 806, depending on which interface is employed by the OS of the managed server 20 for management communications." Specification, page 29, lines 20-22.

Further, the method comprises receiving (e.g., 804), via the VCD (e.g., 504, 600) interface, data responsive to the act of transmitting the request to the OS, the data being intended for a specific communication interface. As set forth in the specification:

> The VCD 600 or USB interface 326 passes the user's request to the OS via the OS-supported management facility at 808 and receives the response back from the OS. The VCD 600 or USB interface 326 passes the response of the OS back to the IOP 302 at 810 and the IOP 302 transmits the response back to the user via the Ethernet interface 322 at 812.
>
> Specification, page 29, line 22 – page 30, line 4.

No arbitration scheme is discussed with respect to the redirection of data in accordance with an exemplary embodiment of the invention as set forth in claim 13.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

First Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's first ground of rejection in which the Examiner rejected claims 1, 9 and 13 under 35 U.S.C. § 112, first paragraph.

Second Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's second ground of rejection in which the Examiner rejected claims 1, 3, 5-9, 11-13 and 15-20 under 35 U.S.C. § 102(e) as being anticipated by Vachon et al. (U.S. Patent Publication No. 2002/0078404, hereinafter "the Vachon reference").

Third Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's third ground of rejection in which the Examiner rejected claims 3, 5, 15, and 21-23 as being unpatentable under 35 U.S.C. § 103(a) over the Vachon reference in view of Hsu et al,. (U.S. Patent No. 5,765,021, hereinafter "the Hsu reference").

7. ARGUMENT

As discussed in detail below, the Examiner has improperly rejected the pending claims. Further, the Examiner has misapplied long-standing and binding legal precedents and principles in rejecting the claims under Sections 112, 102 and 103. Accordingly, Appellants respectfully request full and favorable consideration by the Board, as Appellants respectfully assert that claims 1-9 and 11-23 are currently in condition for allowance.

A. Ground of Rejection No. 1:

The Examiner rejected independent claims 1, 9 and 13 under 35 U.S.C. § 112, first paragraph. Specifically, the Examiner stated:

> As per claims 1, 9, 13, it states **"to redirect without arbitration** the data received from the OS to the remote user". Nowhere in the specification does it state "to redirect without arbitration". Therefore the claim language is not supported by the specification.
>
> Final Office Action, page 2 (Emphasis in original).

Appellants respectfully traverse this rejection.

1. **Legal Precedent**

First, regarding the written description requirement, the initial burden of proof regarding the sufficiency of the written description falls on the Examiner. Accordingly, the Examiner must present evidence or reasons why persons skilled in the art would not recognize a description of the claimed subject matter in the Appellants' disclosure. *In re Wertheim*, 541 F.2d 257, 262, 191 U.S.P.Q. 90, 96 (CCPA 1976). The Examiner is also reminded that the written description requirement does not require the claims to recite the same terminology used in the disclosure. The patentee may be his own lexicographer. *Ellipse Corp. v. Ford Motor Co.*, 171 U.S.P.Q. 513 (7th Cir. 1971), aff'd. 613 F.2d 775 (7th Cir. 1979), cert. denied, 446 U.S. 939 (1980). Moreover, any information contained in any part of the application as filed, including the specification, claims and drawings, may be added to other portions of the application without introducing new matter. Accordingly, if an application as originally filed contains a claim disclosing material not disclosed in the remainder of the specification, the specification may be amended to include the claimed subject matter. *In re Benno*, 768 F.2d 1340, 226 U.S.P.Q. 683 (Fed. Cir. 1985).

Second, regarding the enablement requirement, the Examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. *In re Wright*, 999 F.2d 1557, 1562, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993). Under the test for enablement set forth by the Supreme Court, a rejection for lack of enablement is proper only when the experimentation needed to practice the invention is undue or unreasonable. *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916). A patent need not teach, and preferably omits, what is well known in the art. *In re Buchner*, 929 F.2d 660, 661, 18 U.S.P.Q.2d 1331, 1332 (Fed. Cir. 1991). The undue experimentation test essentially evaluates whether one of reasonable skill in the art can make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation. *U.S. v. Telectronics, Inc.*, 857 F.2d 778, 785, 8 U.S.P.Q.2d 1217, 1223 (Fed. Cir. 1988). As long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of section 112 is satisfied. *In re Fisher*, 427 F.2d 833, 839, 166 U.S.P.Q. 18, 24 (C.C.P.A. 1970).

Independent claims 1, 9 and 13 recite a method and system in which a remote server management controller employs a virtual communication device (VCD) interface that is adapted to intercept data received from an operating system (OS). The virtual communication device (VCD) is further adapted to "redirect without arbitration the data received from the OS to the remote user via the external communication interface instead of redirecting the data received from the OS to the specific communication interface."

Appellants note that the specification clearly states that data intercepted through

the VCD may be "redirected to other outputs of the remote server management controller 200. For example, data intercepted by the VCD may be redirected to a remote user via the Ethernet interface 322." Specification, page 21, lines 19-22. As further disclosed in the specification:

> [T]he VCD 600 or USB interface 326 passes the user's request to the OS via the OS-supported management facility at 808 and receives the response back from the OS. The VCD 600 or USB interface 326 passes the response of the OS back to the IOP 302 at 810 and the IOP 302 transmits the response back to the user via the Ethernet interface 322 at 812.

Specification, page 29, line 22 - page 30, line 4.

Hence, redirection of data by the VCD is done with no intervening or intermediate steps as those implemented by an arbitrator. Further, there is nothing in the Appellants' disclosure to suggest that redirection of data by the VCD is done with arbitration. Therefore, it is unforeseeable that one skilled in the art having the benefit of the Appellants' disclosure would conclude that redirection of data is done with arbitration. Moreover, the recited limitation "without arbitration" is a negative limitation and as such does not require literal basis in the specification. As clearly stated by the M.P.E.P:

> [A] lack of literal basis in the specification for a negative limitation may not be sufficient to establish a *prima facie* case for lack of descriptive support. *Ex parte Parks*, 30 USPQ2d 1234, 1236 (Bd. Pat. App. & Inter. 1993).
>
> M.P.E.P. §2173.05(i).

In the present case, Appellants respectfully assert that the fact that the specification does not literally contain the claim recitation "without arbitration" is not an indication that one of ordinary skill in the art would be required to engage in undue experimentation to conclude that data redirection is performed without the unmentioned act of arbitration.

Indeed, the lack of discussion of arbitration in the specification supports Appellants' contention that arbitration was not contemplated as a part of the redirection of data in accordance with the Appellants' invention. Accordingly, Appellants respectfully request the Board to reverse the rejection of claims 1, 9 and 13 under 35 U.S.C. § 112, first paragraph.

B. **Ground of Rejection No. 2:**

With respect to the rejection of claims 1, 3, 5-9, 11-13 and 15-20 under 35 U.S.C. § 102(e) as being anticipated by the Vachon reference, the Examiner's rejection of independent claims 1, 9 and 13 is exemplary:

> As per claim 1, Vachon teaches a remote server management controller, comprising;
> an external communication interface (Fig.1 element 106) adapted to receive from a remote user (Fig. 5 element "target computer") (Paragraph 33);
> Vachon teaches serial bus such as IEEE 1394 serial bus adapted to receive data from target computer
> an input/output processor (IOP) adapted to: receive data from external communication interface (Paragraph 33); and
> Vachon teaches host computer receives data from the serial bus of the content of the target computer.
> transmit data corresponding to the data received from the external communication interface to an operating system (OS) of a managed server (Paragraph 36)(Paragraph 38); and

Vachon teaches sending the data via serial bus interface the data received from the target computer to the host computer and the debugger run by the operating system.

a virtual communication device (VCD) interface adapted to: intercept data received from the OS (Paragraph 39), the VCD interface comprising a pre-defined standard communication interface, the data received from the OS being intended for specific communication interface (Paragraph 36), and to redirect without arbitration the data received from the OS to the remote user via the external communication interface instead of redirecting the data received from the OS to the specific communication interface (Paragraph 38)(Paragraph 39).

See, Office Action pp. 3-4.

Appellants respectfully traverse this rejection.

1. **Judicial precedent has clearly established a legal standard for a *prima facie* anticipation rejection.**

Anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 227 U.S.P.Q. 773 (Fed. Cir. 1985). Thus, for a prior art reference to anticipate under Section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). Moreover, the prior art reference also must show the *identical* invention "*in as complete detail as contained in the ... claim*" to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989) (emphasis added). Accordingly, Appellants need only point to a single element not found in the cited reference to demonstrate that the cited reference fails to anticipate the claimed subject matter.

2. **The Examiner's rejection of independent claims 1, 9, and 13 is improper because the rejection fails to establish a *prima facie* case of anticipation.**

Independent claim 1 recites:

> A remote server management controller, comprising:
> an external communication interface adapted to receive data from a remote user;
> an input/output processor (IOP) adapted to:
> receive data from the external communication interface; and
> transmit data corresponding to the data received from the external communication interface to an operating system (OS) of a managed server; and
> a virtual communication device (VCD) interface adapted to:
> intercept data received from the OS, the VCD interface comprising a pre-defined standard communication interface, *the data received from the OS being intended for a specific communication interface*, and to *redirect without arbitration the data received from the OS to the remote user via the external communication interface* instead of redirecting the data received from the OS to the specific communication interface. (Emphasis added.)

Independent claim 9 recites:

> A remote server management controller, comprising:
> an input/output processor (IOP) adapted to monitor interrupt data transmitted from a super I/O (SIO) to a southbridge, to alter the interrupt data transmitted from the SIO based on input received from an external user via an external communication interface and to transmit the altered interrupt data to a managed server; and
> a virtual communication device (VCD) that comprises a predefined standard communication interface, the VCD being adapted to:
> *intercept responsive data intended to be transmitted to the SIO in response to the altered interrupt data*, the responsive data being in a format that is not compatible with the first communication protocol; and
> prevent the responsive data from reaching the SIO;
> format the responsive data for transmission; *and*
> *redirect without arbitration the formatted data to the external communication interface.* (Emphasis added.)

Independent claim 13 recites:

> A method of remotely retrieving data from an operating system (OS), the method comprising the acts of:
> receiving a request for OS information from a remote user;
> transmitting the request for OS information to the OS via a virtual communication device (VCD) interface; comprising a pre-defined standard communication interface;
> receiving, via the VCD interface, data responsive to the act of transmitting the request to the OS, the *data being intended for a specific communication interface*;
> formatting the responsive data for transmission; and
> redirecting without arbitration the formatted data to the external communication interface. (Emphasis added.)

The rejection of independent claims 1, 9 and 13 under Section 102 based on Vachon is improper because the Vachon reference does not disclose each and every element recited by those claims. For example, the above claims recite a virtual communication device (VCD) that intercepts and redirects (i.e., diverts) data received from an operating system (OS) to an external communication device. While the received data may be intended for a specific communication interface, the redirection operation, as performed by the claimed VCD, is executed so that the data is provided to the external communication interface rather than to the originally intended specific communication interface. In this manner, a remote user coupled to the external communication interface may be provided with the redirected data for monitoring and improving, via the remote server management controller, a server's performance.

In contrast, the Vachon reference teaches a system adapted to create a snapshot of physical memory of a target computer. Particularly, in rejecting independent claim 1, the Examiner brought forth a portion of the Vachon reference stating:

> [0038] Referring to FIG. 7, steps are shown for remotely creating a physical memory snapshot to enable kernel debugging with minimal down time in accordance with various inventive principles. At step 700, a user, such as a system administrator, may issue a command through host debugger 512 to halt normal execution of core operating system 514 of target computer 502. Halting execution of core operating system 514 is sometimes referred to as "breaking into" target computer 502. At step 702, the user initiates a physical memory snapshot, for instance, by entering a command such as ".dump," which results in host computer 500 accessing the contents of physical memory 510 of target computer 510 and storing the contents of physical memory 510 to a crash dump file 516 from host computer 500. Step 702 is described in more detail below with reference to FIG. 8. The double vertical lines shown in the box for 702 in FIG. 7 indicate that sub-steps of step 702 are depicted in more in a separate flowchart, which, in this case, is FIG. 8. At step 704, the user issues a command via host debugger 512 to instruct core operating system 514 of target computer 502 to resume execution. As indicated at steps 706 and 708, target computer 502 may be debugged using crash dump file 516 while the target computer is executing. This provides a significant advantage over conventional techniques that require real-time core operating system debugging by providing significantly less down time associated with debugging a target computer.
>
> [0039] FIG. 8 is a flow chart showing, in more detail, steps that may be performed as part of step 702 in FIG. 7. At step 800, host computer debugger 512 retrieves state information from core operating system 514. Step 800 is essentially a "handshake" procedure for extracting information stored in physical memory 510 of target computer 502. This handshake information allows debugger 512 to identify information about target computer 502 and core operating system 514 that may be useful for debugging core operating system 514. For instance, handshake information could include, but is not limited to, identifying information about the operating system, such as the operating system version, how much physical memory target computer 502 has, what portions of virtual memory

are mapped to physical memory, and the like. Core operating system 514 preferably includes state information indicating one or more particular address ranges for which physical memory is present on target computer 502. Host debugger 512 preferably accesses this portion of the handshake information that indicates at which address ranges physical memory is present, as part of step 800. A pointer to the handshake information could be provided to host debugger 512, and host debugger could then directly access the handshake information over serial bus 504.

Vachon, paragraphs 38 and 39.

As is clearly indicated by the above disclosure, the Vachon reference, at best, teaches a process in which a host computer (e.g., 500) creates a snapshot of another computer's (e.g., 502) memory. *See also*, Vachon FIGS. 5 and 7. It is further apparent that the Vachon reference does not disclose a virtual communication device, much less one having the characteristics and functional attributes recited by the claims. Appellants note that in the Office Action, the Examiner failed to point out where such a VCD is disclosed in the Vachon reference. Absent such disclosure, the reference can not anticipate the claims.

In addition, according to the Vachon reference, accessing the memory of the host computer results in *direct* flow of data between the two aforementioned computer systems (e.g., 500 and 502) via the communication interface busses 506 and 508. As can be seen form FIG. 5 of the reference, these two interfaces are directly coupled, and there is no mechanism adapted, nor is there a need to *redirect* the data obtained from the computer 502. That is, the act of redirecting data is absent from Vachon because the data obtained from the target computer is intended and, is therefore, directed to both communication interfaces. Therefore, the Vachon reference does not disclose a VCD that receives data from an OS, the data being intended for a specific communication interface,

and to redirect without arbitration the data received from the OS to the remote user via the external communication interface, as recited, for example, by independent claim 1 and as similarly recited by independent claims 9 and 13.

The Vachon reference further teaches that:

> at step 602, upon the occurrence of an internal fault condition on target computer 502, a user, such as a system administrator, initiates a physical memory snapshot, for instance, by entering a command, such as ".dump" to host debugger 512. At step 604, serial bus interface 508, which according to an aspect of the invention may include an IEEE 1394 controller card, invokes physical Direct Memory Access (DMA) to read the contents of target computer physical memory 510. Serial bus interface 508 then sends the data to the host computer 500 over serial bus 504. At step 606, host debugger 512 creates the crash dump file on host computer and stores the data received over serial bus 504 from the target computer's physical memory 512 in the crash dump file.
>
> Vachon, Paragraph 36 and Fig. 6.

The Examiner interpreted the above disclosure as the claimed VCD adapted to intercept responsive data intended to be transmitted to the SIO in response to the altered interrupt data, where the responsive date is in a format that is not compatible with the first communication protocol, as recited by independent claim 9 and as similarly recited by independent claim 13. However, the above disclosure set forth by Vachon fails to mention a VCD adapted to intercept data. Moreover, there is no disclosure in the reference that can be construed as interception of data, particularly, responsive data that is in a format not compatible with any protocol. This yet further exemplifies why

Vachon cannot and does not anticipate the subject matter of independent claims 1, 9 and 13.

For at least these reasons, it is clear that Vachon does not contain each and every element set forth in independent claims 1, 9, and 13. Accordingly, Vachon fails to anticipate independent claims 1, 9, and 13, as well as the claims dependent thereon. Accordingly, the Appellants request reversal of the rejection of claims 1, 3, 5-9, 11-13 and 15-20 under Section 102 and allowance of those claims.

C. **Ground of Rejection No. 3:**

The Examiner rejected claims 3, 5, 15 and 21-23 under 35 U.S.C. § 103(a) as being rendered obvious by the Vachon reference in view of the Hsu reference. The Appellants respectfully traverse this rejection.

1. **Judicial precedent has clearly established a legal standard for a *prima facie* obviousness rejection.**

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). To establish a *prima facie* case, the Examiner must show that a combination of references includes *all* of the claimed elements, *and* also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *See Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). Moreover, the Supreme Court has stated that the obviousness analysis should be explicit. *See KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350, page 14 (U.S.,

decided April 30, 2007). "[R]ejections based on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *See id.* (quoting *In re Kahn,* 441 F.3d 977,988 (Fed. Cir. 2006)). Further, the Examiner cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

2. ***Claims 3, 5, 15 and 21-23***

Claims 3, 5 and 21 depend from independent claim 1. Claim 22 depends from independent claim 9. Claims 15 and 23 depend from independent claim 13. The Appellants respectfully submit that claims 3, 5, 15 and 21-23 are allowable based on these dependencies, because the Hsu reference does not cure the deficiencies regarding the Vachon reference, described above. Specifically, Hsu does not disclose a VCD that includes the limitations discussed above with respect to the rejection of independent claims 1, 9 and 13 under Section 102. For at least these reasons, claims 3, 5, 15 and 21-23 are believed to be allowable over the cited references taken alone or in hypothetical combination with each other. Thus, the Appellants respectfully request reversal of the rejection of claims 3, 5, 15 and 21-23 under Section 103.

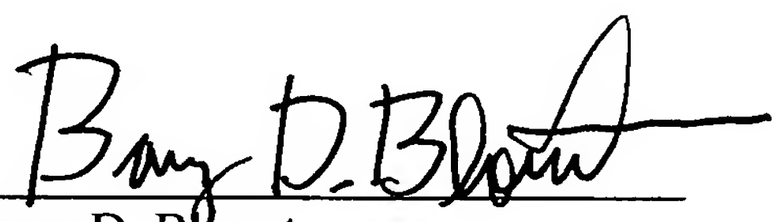
Conclusion

Appellants respectfully submit that all pending claims are in condition for allowance. However, if the Examiner or Board wishes to resolve any issues by way of a

telephone conference, the Examiner or Board is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

Date: October 3, 2007



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8. **APPENDIX OF CLAIMS ON APPEAL**

Listing of Claims:

1. A remote server management controller, comprising:

an external communication interface adapted to receive data from a remote user;

an input/output processor (IOP) adapted to:

receive data from the external communication interface; and

transmit data corresponding to the data received from the external communication interface to an operating system (OS) of a managed server; and

a virtual communication device (VCD) interface adapted to:

intercept data received from the OS, the VCD interface comprising a pre-defined standard communication interface, the data received from the OS being intended for a specific communication interface, and to redirect without arbitration the data received from the OS to the remote user via the external communication interface instead of redirecting the data received from the OS to the specific communication interface.

2. The remote server management controller of claim 1, wherein the specific communication interface is a UART interface of the managed server.

3. The remote server management controller of claim 1, wherein the specific communication interface is a USB host controller of the managed server.

4. The remote server management controller of claim 1, wherein data received from the user over the external communication interface is transmitted to the OS of the managed server via a UART interface.

5. The remote server management controller of claim 1, wherein data received from the user over the external communication interface is transmitted to the OS of the managed server via a USB interface.

6. The remote server management controller of claim 1, wherein the specific communication interface is a 1394 interface of the managed server.

7. The remote server management controller of claim 1, wherein data received from the user over the external communication interface is transmitted to the OS of the managed server via a 1394 interface.

8. The remote server management controller of claim 1, wherein the external communication interface is an Ethernet interface.

9. A remote server management controller, comprising:

an input/output processor (IOP) adapted to monitor interrupt data transmitted from a super I/O (SIO) to a southbridge, to alter the interrupt data

transmitted from the SIO based on input received from an external user via an external communication interface and to transmit the altered interrupt data to a managed server; and

a virtual communication device (VCD) that comprises a predefined standard communication interface, the VCD being adapted to:

intercept responsive data intended to be transmitted to the SIO in response to the altered interrupt data, the responsive data being in a format that is not compatible with the first communication protocol; and

prevent the responsive data from reaching the SIO;

format the responsive data for transmission; and

redirect without arbitration the formatted data to the external communication interface.

11. The remote server management controller of claim 9 wherein the input received from the external user is adapted to emulate an interrupt generated by a device in the managed server.

12. The remote server management controller of claim 9 wherein the external communication interface is an Ethernet interface.

13. A method of remotely retrieving data from an operating system (OS), the method comprising the acts of:

receiving a request for OS information from a remote user

transmitting the request for OS information to the OS via a virtual communication device (VCD) interface comprising a pre-defined standard communication interface;

receiving, via the VCD interface, data responsive to the act of transmitting the request to the OS, the data being intended for a specific communication interface;

formatting the responsive data for transmission; and

redirecting without arbitration the formatted data to the external communication.

14. The method of claim 13 wherein the specific communication interface is a UART interface.

15. The method of claim 13 wherein the specific communication interface is a USB interface.

16. The method of claim 13 wherein the specific communication interface is a 1394 interface.

17. The method of claim 13 further comprising the act of enabling an Ethernet interface to receive the request for OS information.

18. The method of claim 13 further comprising the act of initiating an out-of-band management communication session.

19. The method of claim 13 further comprising the act of enabling a VCD to transmit the request for OS information to the OS.

20. The method of claim 13 wherein the recited acts are performed in the recited order.

21. The remote server management controller of claim 1, wherein the pre-defined communication interface comprises a USB interface.

22. The remote server management controller of claim 9, wherein the pre-defined standard communication interface comprises a USB interface.

23. (Currently amended) The method of claim 13, wherein the pre-defined standard communication interface comprises a USB interface.

9. EVIDENCE APPENDIX

None.

10. RELATED PROCEEDINGS APPENDIX

None.